

Quiz 7 (12am)

Find the determinant of A and use it to answer the questions below.

(4 pts. each)

$$A = \begin{bmatrix} 3 & -1 & 3 \\ 2 & 0 & -2 \\ 2 & 2 & 4 \end{bmatrix}$$

1. Find the determinant of A . (10 pts.)
2. Are the columns of A linearly independent? (2 pts.)
3. How many solutions does $Ax = b$ have for any b in \mathbb{R}^3 (one, none, or infinitely many)? (2 pts.)
4. What is the column space of A ? (2 pts.)
5. What is the determinant of A^{-1} ? (2 pts.)
6. If $AB = -2I$, then what is the determinant of B ? (2 pts.)